

Engineering Mathematics 2 Dr Ksc

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Elements of MECHANICAL ENGINEERING - V. K. MANGLIK
2013-04-08

This book provides a comprehensive and wide-ranging introduction to the fundamental principles of mechanical engineering in a distinct and clear manner. The book is intended for a core introductory course in the area of foundations and applications of mechanical engineering, prescribed for the first-year students of all disciplines of engineering. The book develops an intuitive understanding of the basic principles of thermodynamics as well as of the principles governing the conversion of heat into energy. Numerous illustrative examples are provided to fortify these concepts throughout. The book gives the students a feel for how thermodynamics is applied in engineering practice in the areas of heat engines, steam boilers, internal combustion engines, refrigeration and air conditioning, and to devices such as turbines, pumps and compressors. The book also provides a basic understanding of mechanical design, illustrating the principles through a discussion of devices designed for the transmission of motion and power such as couplings, clutches and brakes. No book on basic mechanical engineering is complete without an introduction to materials science. The text covers the treatment of the common engineering materials, highlighting their properties and applications. Finally, the role of lubrication and lubricants in reducing the wear and tear of parts in mechanical systems, is lucidly explained in the concluding chapter. The text features several fully worked-out examples, a fairly large number of numerical problems with answers, end-of-chapter review questions and multiple choice questions, which all enhance the value of the text to the students. Besides the students studying for an engineering degree, this book is also suitable for study by the students of AMIE and the students of diploma level courses.

Engineering Mathematics-II - C.B. Gupta 2008

Numerical Methods For Scientific And Engineering Computation - M.K. Jain 2003

Orbital Mechanics for Engineering Students - Howard D Curtis 2009-10-26

Orbital Mechanics for Engineering Students, Second Edition, provides an introduction to the basic concepts of space mechanics. These include vector kinematics in three dimensions; Newton's laws of motion and gravitation; relative motion; the vector-based solution of the classical two-body problem; derivation of Kepler's equations; orbits in three dimensions; preliminary orbit determination; and orbital maneuvers. The book also covers relative motion and the two-impulse rendezvous problem; interplanetary mission design using patched conics; rigid-body dynamics used to characterize the attitude of a space vehicle; satellite attitude dynamics; and the characteristics and design of multi-stage launch vehicles. Each chapter begins with an outline of key concepts and concludes with problems that are based on the material covered. This text is written for undergraduates who are studying orbital mechanics

for the first time and have completed courses in physics, dynamics, and mathematics, including differential equations and applied linear algebra. Graduate students, researchers, and experienced practitioners will also find useful review materials in the book. NEW: Reorganized and improved discussions of coordinate systems, new discussion on perturbations and quaternions NEW: Increased coverage of attitude dynamics, including new Matlab algorithms and examples in chapter 10 New examples and homework problems
The Woman From Obscurity to the Wings of Change: A Book for the Upcoming Woman, the Girl-Child, and Their Supporters - Onu Felix Madu Wogu Bsc Mba Ksc 2021-09-07
The Woman From Obscurity to the Wings of Change This book is all about the woman. God created the woman when he saw and said, "It is not good that the man should be alone" (Genesis 2:18). God was not satisfied, at a stage, with the performances of Adam alone in the garden of Eden. God therefore created the woman for fruitfulness and to unveil hidden knowledge, wisdom, and procreation in fulfillment of God's blessings and wishes for his creation on earth. The men on earth became jealous and suspicious of the woman because of her nature and qualities. The early religious leaders, family heads, the community leaders, authors and Bible writers, the governments in the Middle East, and society in general made laws and culture aimed at demeaning and downplaying the woman's qualities and contributions. They veiled the woman to obscurity in the land. Centuries later, women passed through changes toward emancipation as a result of pressure by feminist groups, government and civil society agencies in developed and civilized countries who made legislations and edicts prohibiting discrimination and gender inequality laws against women. Several women and men organizations in cooperation with government-initiated activities and made laws aimed at abolishing all kinds of gender discrimination in their nations. As a result of these laws, women became not just educated, but they became educators in various fields of science and technology. Highflier women became professors, doctors, engineers, pilots, political leaders, heads of states, and industrial leaders in their nations. Today's women are on the wings of change. They now compete with men all over the world. Women are becoming more equal to men than expected. Many men are confused and are looking up to the women highfliers for direction.

Engineering Mathematics Volume Ii - 2011

The Autobiography and Other Writings - Benjamin Franklin
2008-04-29

This authoritative Bantam Classic edition presents readers with a wide-ranging selection of Benjamin Franklin's most important writings, illuminating the complex and appealing character of this quintessential American who rose to fame as a publisher, inventor, educator, bon vivant, and statesman. Here are selections from Franklin's newspaper articles, from the sage wisdom of Poor Richard's Almanac, from his entertaining letters, from his scientific essays, from his political and revolutionary writings, plus a generous sampling of

his famous aphorisms, poems, and humor. And, most important, here is a newly edited text of one of the most vital and important works of American literature, the Autobiography. As fascinating and as relevant as ever, this timeless collection of writings reveals an extraordinary man whose mind was always curious, always questioning, and who forever remained dedicated to the principles of truth and liberty.

Mathematics-I Calculus and Linear Algebra (BSC-105) (For Computer Science & Engineering Students only) - Bhui, Bikas Chandra & Chatterjee Dipak

Mathematics-I for the paper BSC-105 of the latest AICTE syllabus has been written for the first semester engineering students of Indian universities. Paper BSC-105 is exclusively for CS&E students. Keeping in mind that the students are at the threshold of a completely new domain, the book has been planned with utmost care in the exposition of concepts, choice of illustrative examples, and also in sequencing of topics. The language is simple, yet accurate. A large number of worked-out problems have been included to familiarize the students with the techniques to solving them, and to instill confidence. Authors' long experience of teaching various grades of students has helped in laying proper emphasis on various techniques of solving difficult problems.

Mathematical Modeling in Economics, Ecology and the Environment - N.V. Hritonenko 2013-04-17

The problems of interrelation between human economics and natural environment include scientific, technical, economic, demographic, social, political and other aspects that are studied by scientists of many specialities. One of the important aspects in scientific study of environmental and ecological problems is the development of mathematical and computer tools for rational management of economics and environment. This book introduces a wide range of mathematical models in economics, ecology and environmental sciences to a general mathematical audience with no in-depth experience in this specific area. Areas covered are: controlled economic growth and technological development, world dynamics, environmental impact, resource extraction, air and water pollution propagation, ecological population dynamics and exploitation. A variety of known models are considered, from classical ones (Cobb Douglass production function, Leontief input-output analysis, Solow models of economic dynamics, Verhulst-Pearl and Lotka-Volterra models of population dynamics, and others) to the models of world dynamics and the models of water contamination propagation used after Chernobyl nuclear catastrophe. Special attention is given to modelling of hierarchical regional economic-ecological interaction and technological change in the context of environmental impact. XIII XIV Construction of Mathematical Models ...

An Introduction to Numerical Methods and Analysis - James F. Epperson 2013-06-06

Praise for the First Edition ". . . outstandingly appealing with regard to its style, contents, considerations of requirements of practice, choice of examples, and exercises." -Zentrablatt Math ". . . carefully structured with many detailed worked examples . . ." -The Mathematical Gazette ". . . an up-to-date and user-friendly account . . ." -Mathematika An Introduction to Numerical Methods and Analysis addresses the mathematics underlying approximation and scientific computing and successfully explains where approximation methods come from, why they sometimes work (or don't work), and when to use one of the many techniques that are available. Written in a style that emphasizes readability and usefulness for the numerical methods novice, the book begins with basic, elementary material and gradually builds up to more advanced topics. A selection of concepts required for the study of computational mathematics is introduced, and simple

approximations using Taylor's Theorem are also treated in some depth. The text includes exercises that run the gamut from simple hand computations, to challenging derivations and minor proofs, to programming exercises. A greater emphasis on applied exercises as well as the cause and effect associated with numerical mathematics is featured throughout the book. An Introduction to Numerical Methods and Analysis is the ideal text for students in advanced undergraduate mathematics and engineering courses who are interested in gaining an understanding of numerical methods and numerical analysis.

Fano Resonances in Optics and Microwaves - Eugene Kamenetskii 2018-11-20

This book discusses the development of Fano-based techniques and reveals the characteristic properties of various wave processes by studying interference phenomena. It explains that the interaction of discrete (localized) states with a continuum of propagation modes leads to Fano interference effects in transmission, and explores novel coherent effects such as bound states in the continuum accompanied by collapse of Fano resonance. Originating in atomic physics, Fano resonances have become one of the most appealing phenomena of wave scattering in optics, microwaves, and terahertz techniques. The generation of extremely strong and confined fields at a deep subwavelength scale, far beyond the diffraction limit, plays a central role in modern plasmonics, magnonics, and in photonic and metamaterial structures. Fano resonance effects take advantage of the coupling of these bound states with a continuum of radiative electromagnetic waves. With their unique physical properties and unusual combination of classical and quantum structures, Fano resonances have an application potential in a wide range of fields, from telecommunication to ultrasensitive biosensing, medical instrumentation and data storage. Including contributions by international experts and covering the essential aspects of Fano-resonance effects, including theory, modeling and design, proven and potential applications in practical devices, fabrication, characterization and measurement, this book enables readers to acquire the multifaceted understanding required for these multidisciplinary challenges.

A Textbook of Engineering Mathematics (For First Year ,Anna University) - N.P. Bali 2009

Engineering Mathematics - III: - Babu Ram

Engineering Mathematics-III has been mapped to the syllabus of the third-semester mathematics paper taught to the students of electrical engineering, electrical and electronics engineering and electronics and communication engineering in Rajasthan Technical University, Kota. The book, a balanced mix of theory and solved problems, focuses on problem-solving techniques and engineering applications to ensure that students learn the mathematical skills needed for engineers. The last three years' solved question papers have been included for the benefit of the students.

Engineering Mathematics III - A N Singh 2015

1 Linear Differential Equation 2 Simultaneous Linear Differential Equations, Symmetrical Simultaneous D e and Applications of Differential Equations 3 Fourier Transform 4 The Z Transform 5 Interpolation, numerical Differentiation and integration 6 Numerical Solution of ordinary Differential Equations 7 vector Algebra 8 Vector Differentiation 9 Vector Integration 10 Applications of vectors to Electromagnetic Fields 11 Complex Differentiation 12 Complex Integration and Conformal Mapping Model Question Paper: online Examination (Phase I & II) Model Question Paper: Theory Examination

S Chand Higher Engineering Mathematics - H K Dass 2011 For Engineering students & also useful for competitive Examination.

Advanced Engineering Mathematics - Dennis Zill 2011
Accompanying CD-ROM contains ... "a chapter on engineering statistics and probability / by N. Bali, M. Goyal, and C. Watkins."--CD-ROM label.

Engineering Mathematics : Volume Ii - A C Srivastava

A Textbook Of Engineering Mathematics-I : (As Per The New Syllabus, B.Tech. I Year Of U.P. Technical University) - Gangwar 2009

Engineering Mathematics II - Sergei Silvestrov
2017-02-10

This book highlights the latest advances in engineering mathematics with a main focus on the mathematical models, structures, concepts, problems and computational methods and algorithms most relevant for applications in modern technologies and engineering. It addresses mathematical methods of algebra, applied matrix analysis, operator analysis, probability theory and stochastic processes, geometry and computational methods in network analysis, data classification, ranking and optimisation. The individual chapters cover both theory and applications, and include a wealth of figures, schemes, algorithms, tables and results of data analysis and simulation. Presenting new methods and results, reviews of cutting-edge research, and open problems for future research, they equip readers to develop new mathematical methods and concepts of their own, and to further compare and analyse the methods and results discussed. The book consists of contributed chapters covering research developed as a result of a focused international seminar series on mathematics and applied mathematics and a series of three focused international research workshops on engineering mathematics organised by the Research Environment in Mathematics and Applied Mathematics at Mälardalen University from autumn 2014 to autumn 2015: the International Workshop on Engineering Mathematics for Electromagnetics and Health Technology; the International Workshop on Engineering Mathematics, Algebra, Analysis and Electromagnetics; and the 1st Swedish-Estonian International Workshop on Engineering Mathematics, Algebra, Analysis and Applications. It serves as a source of inspiration for a broad spectrum of researchers and research students in applied mathematics, as well as in the areas of applications of mathematics considered in the book.

Engineering Mathematics-I - T.K.V. Iyengar, B. Krishna Gandhi, S. Ranganatham & M.V.S.S.N. Prasad
Engineering Mathematics-I

Electromagnetic Field Theory - Uday A. Bakshi 2020-11-01
The comprehensive study of electric, magnetic and combined fields is nothing but electromagnetic engineering. Along with electronics, electromagnetics plays an important role in other branches. The book is structured to cover the key aspects of the course Electromagnetic Field Theory for undergraduate students. The knowledge of vector analysis is the base of electromagnetic engineering. Hence book starts with the discussion of vector analysis. Then it introduces the basic concepts of electrostatics such as Coulomb's law, electric field intensity due to various charge distributions, electric flux, electric flux density, Gauss's law, divergence and divergence theorem. The book continues to explain the concept of elementary work done, conservative property, electric potential and potential difference and the energy in the electrostatic fields. The detailed discussion of current density, continuity equation, boundary conditions and various types of capacitors is also included in the book. The book provides the discussion of Poisson's and Laplace's equations and their use in variety of practical applications. The chapter on magnetostatics incorporates the explanation of Biot-Savart's law, Ampere's circuital law and its applications, concept of curl, Stoke's theorem, scalar and vector magnetic potentials. The book

also includes the concept of force on a moving charge, force on differential current element and magnetic boundary conditions. The book covers all the details of Faraday's laws, time varying fields, Maxwell's equations and Poynting theorem. Finally, the book provides the detailed study of uniform plane waves including their propagation in free space, perfect dielectrics, lossy dielectrics and good conductors. The book uses plain, lucid language to explain each topic. The book provides the logical method of explaining the various complicated topics and stepwise methods to make the understanding easy. The variety of solved examples is the feature of this book which helps to inculcate the knowledge of the electromagnetics in the students. Each chapter is well supported with necessary illustrations and self-explanatory diagrams. The book explains the philosophy of the subject which makes the understanding of the concepts very clear and makes the subject more interesting.

Additional Mathematics - 1: Additional Mathematics - for VTU Lateral Entry Students - C. Pandurangappa 2019-10-25

This book Additional Mathematics - I, 4th Edition, is the bridge course text book of Mathematics for the lateral entry (diploma quota) students and is designed for 3rd semester Engineering course at the Visvesvaraya Technological University (VTU). The content is explained in 5 modules using simple and lucid language. The introductory chapter 0 being "Preliminaries -Short Notes". This chapter is to refresh and recollect your understanding, at the lower classes. Module 1 begins with Complex Trigonometry and Vector Algebra, continues with explanations on concepts like Complex Numbers: Definitions & Properties. Modulus and amplitude of a complex number, Argand's diagram, De-Moivre's theorem and start off with Vector Algebra, with a generous sprinkle of worked out examples. Module 2 and 3 is dedicated to Differential Calculus & Vector Calculus, Module 4 for Integral Calculus and concludes with Module 5 ODE's (Ordinary Differential Equations) which explains Introduction to first order differential equations and Linear differential equations and terminates with explaining Bernoulli's equation. The author also explains Homogeneous Equations, Equations Reducible to Homogeneous, Linear Differential Equations, Exact Differential Equations, Equations Reducible to Exact Equations. As usual, varieties of worked examples and a large number of exercise problems are provided in the text to strengthen the problems solving ability and concept understanding of students.

Engineering Mathematics-II - A. Ganeshi 2009

About the Book: This book Engineering Mathematics-II is designed as a self-contained, comprehensive classroom text for the second semester B.E. Classes of Visveswararajah Technological University as per the Revised new Syllabus. The topics included are Differential Calculus, Integral Calculus and Vector Integration, Differential Equations and Laplace Transforms. The book is written in a simple way and is accompanied with explanatory figures. All this make the students enjoy the subject while they learn. Inclusion of selected exercises and problems make the book educational in nature. It should.

Principles of Foundation Engineering - Braja M. Das
2018-10-03

Master the core concepts and applications of foundation analysis and design with Das/Sivakugan's best-selling PRINCIPLES OF FOUNDATION ENGINEERING, 9th Edition. Written specifically for those studying undergraduate civil engineering, this invaluable resource by renowned authors in the field of geotechnical engineering provides an ideal balance of today's most current research and practical field applications. A wealth of worked-out examples and figures clearly illustrate the work of today's civil engineer, while timely information and insights help readers develop the critical skills

needed to properly apply theories and analysis while evaluating soils and foundation design. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Bringing Columbia Home - Michael D. Leinbach 2018-01-23
Voted the Best Space Book of 2018 by the Space Hipsters
The dramatic inside story of the epic search and recovery operation after the Columbia space shuttle disaster. On February 1, 2003, Columbia disintegrated on reentry before the nation's eyes, and all seven astronauts aboard were lost. Author Mike Leinbach, Launch Director of the space shuttle program at NASA's John F. Kennedy Space Center was a key leader in the search and recovery effort as NASA, FEMA, the FBI, the US Forest Service, and dozens more federal, state, and local agencies combed an area of rural east Texas the size of Rhode Island for every piece of the shuttle and her crew they could find. Assisted by hundreds of volunteers, it would become the largest ground search operation in US history. This comprehensive account is told in four parts: Parallel Confusion Courage, Compassion, and Commitment Picking Up the Pieces A Bittersweet Victory For the first time, here is the definitive inside story of the Columbia disaster and recovery and the inspiring message it ultimately holds. In the aftermath of tragedy, people and communities came together to help bring home the remains of the crew and nearly 40 percent of shuttle, an effort that was instrumental in piecing together what happened so the shuttle program could return to flight and complete the International Space Station. Bringing Columbia Home shares the deeply personal stories that emerged as NASA employees looked for lost colleagues and searchers overcame immense physical, logistical, and emotional challenges and worked together to accomplish the impossible. Featuring a foreword and epilogue by astronauts Robert Crippen and Eileen Collins, and dedicated to the astronauts and recovery search persons who lost their lives, this is an incredible, compelling narrative about the best of humanity in the darkest of times and about how a failure at the pinnacle of human achievement became a story of cooperation and hope.

Higher Engineering Mathematics - John Bird 2017-04-07
Now in its eighth edition, Higher Engineering Mathematics has helped thousands of students succeed in their exams. Theory is kept to a minimum, with the emphasis firmly placed on problem-solving skills, making this a thoroughly practical introduction to the advanced engineering mathematics that students need to master. The extensive and thorough topic coverage makes this an ideal text for upper-level vocational courses and for undergraduate degree courses. It is also supported by a fully updated companion website with resources for both students and lecturers. It has full solutions to all 2,000 further questions contained in the 277 practice exercises.

Engineering Mathematics - III - M Y Gokhale 2017-06-17
1 Linear differential equations with constant coefficients
2 Simultaneous linear Differential Equations
3 Applications of Differential Equations
4 System of linear equations
5 Numerical solution of ordinary differential equations
6 Statistics correlation and regression
7 Probability and probability distributions
8 Vector algebra
9 Vector differentiation
10 Vector integration
11 Application of vectors to fluid mechanics
12 Application of partial differential equations

Power System Operation and Control - Sivanagaraju, S.
Power System Operation and Control is comprehensively designed for undergraduate and postgraduate courses in electrical engineering. This book aims to meet the requirements of electrical engineering students and is useful for practicing engineers.

A Text Book of Engineering Mathematics - Rajesh Pandey

2009-01-01

Engineering Mathematics-I - Reena Garg 2014

This book is designed to meet the complete requirements of Engineering Mathematics course of undergraduate syllabus, The book consists of seven chapters viz. infinite Series, Matrices, Expansion of Functions, Asymptotes, Curvature, Partial Differentiation, Multiple Integrals, Each chapter is treated in treated in systematic, logical and lucid manner, All these chapters are independent units in themselves. The students can go through the book picking up any chapter at any given times, without referring to other chapters, Hints, where ever necessary and answers of the questions in the exercises are given at the end of each exercise, Most of the questions-solved as well as unsolved-have been picked up from the examination papers of different universities and professional examinations, There are fully worked out examples and graded exercises (with answers) aimed at preparing the student for examination as well as higher studies, The authors have illustrated various methods to solve particular problems.

Engineering Mathematics - II - M Y Dr Gokhale 2020

MATH 221 FIRST Semester Calculus - Sigurd Angenent 2014-11-26

MATH 221 FIRST Semester Calculus By Sigurd Angenent
Engineering Mathematics--III - P. B. Bhaskar Rao 2008

System Engineering Analysis, Design, and Development - Charles S. Wasson 2015-11-16

Praise for the first edition: "This excellent text will be useful to every system engineer (SE) regardless of the domain. It covers ALL relevant SE material and does so in a very clear, methodical fashion. The breadth and depth of the author's presentation of SE principles and practices is outstanding." -Philip Allen
This textbook presents a comprehensive, step-by-step guide to System Engineering analysis, design, and development via an integrated set of concepts, principles, practices, and methodologies. The methods presented in this text apply to any type of human system -- small, medium, and large organizational systems and system development projects delivering engineered systems or services across multiple business sectors such as medical, transportation, financial, educational, governmental, aerospace and defense, utilities, political, and charity, among others. Provides a common focal point for "bridging the gap" between and unifying System Users, System Acquirers, multi-discipline System Engineering, and Project, Functional, and Executive Management education, knowledge, and decision-making for developing systems, products, or services
Each chapter provides definitions of key terms, guiding principles, examples, author's notes, real-world examples, and exercises, which highlight and reinforce key SE&D concepts and practices
Addresses concepts employed in Model-Based Systems Engineering (MBSE), Model-Driven Design (MDD), Unified Modeling Language (UMLTM) / Systems Modeling Language (SysMLTM), and Agile/Spiral/V-Model Development such as user needs, stories, and use cases analysis; specification development; system architecture development; User-Centric System Design (UCSD); interface definition & control; system integration & test; and Verification & Validation (V&V)
Highlights/introduces a new 21st Century Systems Engineering & Development (SE&D) paradigm that is easy to understand and implement. Provides practices that are critical staging points for technical decision making such as Technical Strategy Development; Life Cycle requirements; Phases, Modes, & States; SE Process; Requirements Derivation; System Architecture Development, User-Centric System Design (UCSD); Engineering Standards, Coordinate Systems, and Conventions; et al. Thoroughly illustrated, with

end-of-chapter exercises and numerous case studies and examples, Systems Engineering Analysis, Design, and Development, Second Edition is a primary textbook for multi-discipline, engineering, system analysis, and project management undergraduate/graduate level students and a valuable reference for professionals.

Skill in Mathematics - Algebra for JEE Main and Advanced
- Dr. S K Goyal 2021-04-19

1. 'Skill in Mathematics' series is prepared for JEE Main and Advanced papers 2. It is a highly recommended textbook to develop a strong grounding in Algebra 3. The book covers the entire syllabus into 11 chapters 4. Each chapter includes a wide range of questions that are asked in the examinations Good foundational grip is required in the Algebraic Methods, while you are preparing for JEE Mains & Advanced or any other engineering. Bringing up the series "Skills in Mathematics for JEE Main & Advanced for Algebra" that is carefully revised with the sessionwise theory and exercise; to help candidates to learn & tackle the mathematical problems. The book has 11 Chapters covering the whole syllabus for the JEE Mains and Advanced as prescribed. Each chapter is divided into sessions giving complete clarity to concepts. Apart from sessionwise theory, JEE Type examples and Chapter Exercise contain a huge amount of questions that are provided in every chapter under Practice Part. Prepared under great expertise, it is a highly recommended textbook to develop a strong grounding in Algebra to perform best in JEE and various engineering entrances. TOC: Complex Numbers, Theory of Equations, Sequences and Series, Logarithms and Their Properties, Permutations and Combinations, Binomial Theorems, Determinants, Matrices, Probability, Mathematical Inductions, Sets, Relations and Functions.

Bulletin - Kansas Association of Teachers of Mathematics 1927

Engineering the Space Age - Robert V. Brulle 2009-05
Few people have experienced as much aerospace history as Bob Brulle (Lt. Col. Robert V. Brulle, USAF, Ret.), and fewer still possess his meticulous recall and research skills. The P-47 fighter pilot turned engineer, inventor, educator, and author found himself immersed in the Cold War race to the moon, developing cutting-edge technology, instructing future astronauts in aerodynamics and orbital mechanics, perfecting high-performance fighter aircraft to meet the Soviet challenge, overseeing the procurement of new weapon systems, and exploring alternative energy sources. In this book, he shares his unique personal insights into the triumphs and tragedies of one of the most exciting eras in American history.

Engineering Fundamentals: An Introduction to Engineering, SI Edition - Saeed Moaveni 2011-01-01
Specifically designed as an introduction to the exciting world of engineering, ENGINEERING FUNDAMENTALS: AN INTRODUCTION TO ENGINEERING encourages students to become engineers and prepares them with a solid foundation in the fundamental principles and physical laws. The book begins with a discovery of what engineers do as well as an inside look into the various areas of specialization. An explanation on good study habits and what it takes to succeed is included as well as an introduction to design and problem solving, communication, and ethics. Once this foundation is

established, the book moves on to the basic physical concepts and laws that students will encounter regularly. The framework of this text teaches students that engineers apply physical and chemical laws and principles as well as mathematics to design, test, and supervise the production of millions of parts, products, and services that people use every day. By gaining problem solving skills and an understanding of fundamental principles, students are on their way to becoming analytical, detail-oriented, and creative engineers. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Aiming at Targets - Robert C. Seamans 1996
An essential volume in the NASA History Series by Robert C. Seamans, Jr., the Associate Administrator of NASA during the Apollo program. A stirring insider's account of NASA and the manned space program at the highest levels. Relationships with the Department of Defense, the Apollo 204 fire, the assassination of President Kennedy, and more. Aiming at Targets is a series of fascinating topical vignettes covering the author's professional life. Taken together, like broad brushstrokes in an impressionist painting, they give a better picture of Bob Seamans and his work than a detailed recitation of facts and dates could hope to do. This is a cheerful account of an interesting and successful career. The book is full of good stories, with many memorable characters. Like the proverbial sundial, it counts the sunny hours.

Physics-based Animation - Kenny Erleben 2005
The booming computer games and animated movie industries continue to drive the graphics community's seemingly insatiable search for increased realism, believability, and speed. To achieve the quality expected by audiences of today's games and movies, programmers need to understand and implement physics-based animation. To provide this understanding, this book is written to teach students and practitioners and theory behind the mathematical models and techniques required for physics-based animation. It does not teach the basic principles of animation, but rather how to transform theoretical techniques into practical skills. It details how the mathematical models are derived from physical and mathematical principles, and explains how these mathematical models are solved in an efficient, robust, and stable manner with a computer. This impressive and comprehensive volume covers all the issues involved in physics-based animation, including collision detection, geometry, mechanics, differential equations, matrices, quaternions, and more. There is excellent coverage of collision detection algorithms and a detailed overview of a physics system. In addition, numerous examples are provided along with detailed pseudo code for most of the algorithms. This book is ideal for students of animation, researchers in the field, and professionals working in the games and movie industries. Topics Covered: * The Kinematics: Articulated Figures, Forward and Inverse Kinematics, Motion Interpolation * Multibody Animation: Particle Systems, Continuum Models with Finite Differences, the Finite Element Method, Computational Fluid Dynamics * Collision Detection: Broad and Narrow Phase Collision Detection, Contact Determination, Bounding Volume Hierarchies, Feature-and Volume-Based Algorithms